

Walyungup Lake gulls exhibit a similar dispersal pattern from their natal area. The recoveries of gulls banded at Walyungup Lake are set out below:

1. Runner ringed on November 5, 1961, recovered sick near the Narrows Bridge, Swan River, on January 8, 1963.
2. Non-flying young ringed on November 5, 1961, recovered dead at Victoria Park, 28 miles NNE on January 20, 1963.
3. Nestling banded on September 30, 1961, caught on a fishing line and shot at the Bunbury jetty, 72 miles south, on April 8, 1962.

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### NOTES ON TWO SPECIES OF WESTERN AUSTRALIAN COMPOSITAE

By J. H. WILLIS.\*

#### 1. *TRICHOCLINE SPATHULATA* (A. Cunn. ex DC.) J. H. Willis, comb. nov.

*Celmisia spathulata* A. Cunn. ex DC. *Prodr. Syst. Nat. Regn. Veg.*, 5: 209 (Oct. 1836);

*Trichocline scapigera* (Benth.) F. Muell. *Syst. Cens. Aust. Plant.*, 85 (1882);

*Amblysperma scapigera* Benth. in Endl. et al. *Enum. Plant. Nov. Holl. (coll. Huegel)*: 67 (1837), atque *Flora Aust.*, 3: 676 (1866).

The tribe *Mutisieae* of the daisy family (*Compositae*) is predominantly South American, including forest climbers with colourful spectacular flower-heads. One of the larger genera is *Trichocline*, of which some 40 species occur in South America and a single very isolated representative, *T. spathulata*, locally known as the Native Gerbera, in Western Australia—a striking and perplexing example of disjunct distribution. No other member of this tribe is indigenous to the Australian Commonwealth, but the South African *Gerbera jamesonii*, in a wide range of pastel colours, is popular as a perennial garden herb. Indeed, our *Trichocline* has close affinities with *Gerbera* and might well be regarded as the "gerbera" counterpart on this side of the Indian Ocean—just as *Cymbonotus* is the Australian analogue of *Arctotheca* (Capeweed).

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With its tall-stalked, white-rayed heads to 2 in. wide, springing from a rosette of lyrate lobed to almost entire leaves (up to 9 in. long and cottony-white beneath), *Trichocline spathulata* is among the most impressive and beautiful native daisies in Australia. The foliage is invested at the base with long silky hairs, while the narrowly pointed herbaceous bracts of the funnel-shaped involuere are usually white-woolly. Ray florets are numerous and ligulate, those of the disk being deeply cleft into linear coiling lobes. The anther bases are caudiform and achenes silky-hairy. This distinctive wildflower ranges from Cape Riche in the south-east to Mt. Lesueur in the north-west. It was excellently portrayed in colour by Edgar Dell in the plant portrait series published by West Australian Newspapers Ltd. on March 30, 1933.

The name change from *T. scapigera*, by which it has been known for the past 85 years, is unfortunate but inevitable under the existing Code of Botanical Nomenclature; De Candolle published the earliest valid description, as *Celmisia spathulata*, a few months before Bentham's *Amblyosperma scapigera*, and the former epithet must be retained upon transfer to the genus *Trichocline*.

2. *CRATYSTYLIS CONOCEPHALA* (F. Muell.) S. le M. Moore in *J. Bot., Lond.*, 43: 138 (1905).

*Eurybia conocephala* F. Muell. in *Trans. Vict. Inst.*, 1: 36 (1855);

*Aster conocephalus* (F. Muell.) F. Muell. *Fragm. Phyt. Aust.*, 5: 79 (1865);

*Olearia conocephala* (F. Muell.) Benth. *Flora Aust.*, 3: 480 (1866);

*Pluchea conocephala* (F. Muell.) F. Muell. in *Proc. Roy. Soc. Vict.*, 24: 138 (1887);

*Stera conocephala* (F. Muell.) Ewart & Rees in *Proc. Roy. Soc. Vict.*, new ser., 24: 264 (1911);

*Pteronia australiensis* J. Hutchinison in *Kgl. Dansk. Videnskab. Selskab. Biolog. Medd.*, 30: 131 (1921).

It is doubtful whether any other Australian member of the *Compositae* has had a more chequered nomenclatural career than *Cratystylis conocephala* which has been variously assigned to seven genera during the past 112 years. This dense rigid hoary bush, 2-4 ft. high and wide, is an inhabitant of rather alkaline mallee country in the more arid southern parts of Western Australia, South Australia and New South Wales, the record for Victoria being doubtful. In habit and silvery-grey colouration, it bears a remarkable resemblance to the Hoary Bluebush (*Kochia sedifolia*) and is also known as "Bluebush" in South Australia where it may dominate the landscape along southern fringes of the Nullarbor Plain (e.g. Eyre Highway in the vicinity of Yalata Aboriginal Reserve). The solitary, terminal, sessile and cylindrical flower-heads (about  $\frac{1}{2}$  in. long) have several rows of dry blunt bracts enclosing 4-6 florets and are noteworthy for being either entirely female, bisexual or functionally male.

Robert Brown collected the earliest known specimens at Fowler's Bay (S.A.) on January 29, 1802, but they lay unrecognised and undescribed at the British Museum. Ferdinand Mueller's collection from the "Murray River near Morunde" (Oct. 1848) became the type of *Eurybia conocephala*, which he published with a description in 1855 (*l.c.*), under the Section *Agllossa* of Cassini's genus—now regarded as synonymous with *Olearia* Moench.



Ten years later (1865) Mueller transferred this species to *Aster*, supplementing his single South Australian record with "deserts along the Darling and Murrumbidgee Rivers" in New South Wales. Next year (1866) Bentham placed it under *Olearia* and added Victoria ("N.W. districts") to the regional distribution, also Fowler's Bay and the Head of the Great Bight in South Australia. He expressed dissatisfaction with its systematic position and uncertainty as to its actual affinities, stating that "the species has not the style of *Olearia*", but with anthers "not auriculate". Mueller, in his *Systematic Census of Australian Plants* p. 78 (1882), continued to regard the plant as an *Aster* (*sens. lat.*, including also *Olearia*).

By 1887, Mueller was convinced that his unusual species of *Aster* should be removed to the tribe *Inuleae*, and he made the new combination *Pluchea conocephala* (*l.c.*). In a two-page dissertation on "this remarkable plant", it is noted that the style-arms are in accord with *Pluchea*, so also the "sagittate base of the anthers, although the latter is reduced to extreme minuteness"—the probable reason for Bentham's conclusion that they were actually non-auriculate. In this paper Mueller submits the species as new to Victoria (p. 138), with the comment:

"In arid calcareous tracts of country from the Wimmera, Darling and Murray Rivers, extending westward as far as Eucla".

The only possible Victorian collection in Melbourne Herbarium is one labelled "beyond the Wimmera", collected by W. Lockhart Morton. No other details are given, and the sample may not have come from Victoria at all. During April 1859 Morton had visited the Victorian Mallee, while en route for Euston and Hillston (N.S.W.), and in the 1880's he collected from the border districts of N.W. New South Wales and Queensland. No other observer during the past century has noted this species within Victoria; but H. Beckler certainly collected it on December 4, 1861, at the N.W. Bend of the Murray (near the present site of Morgan)—75 miles west of the nearest point on the Victorian border.

The name *Pluchea conocephala* continued to be used for 18 years, and it appears in the following works of reference: F. Mueller's *Key to the System of Victorian Plants*, 1: 294 (1888) and his *Second Systematic Census of Australian Plants*: 133 (1889), R. Tate's *Handbook of the Flora of Extratropical South Australia*: 122 (1890), Mueller and Tate's "Botany" of the Elder Expedition in *Trans. Roy. Soc. S. Aust.*, 16: 365 (1896). In the last paper, definite Western Australian localities are added for the first time (*viz.* Victoria Spring, Fraser Range and Lake Lefroy), and during the same year the name appears also in Mueller's "List of Extra-tropic West Australian Plants" in the *Western Australian Year-Book* for 1894-95, p. 218.

In 1905 the species became the genotype of Spencer le M. Moore's new genus *Cratystylis* published in the *Journal of Botany*, London (vol. 43, p. 138). Two other congeners were published simultaneously, on the basis of Elder Expedition specimens from Lake Lefroy and Hunt's Well in the Kalgoorlie-Widgiemooltha district. The genus is presented as a "very interesting and curious one", and Spencer Moore "after much cogitation" concludes that *Cratystylis* should be included with the *Inuleae*. So Mueller was nearer the truth in calling it a *Pluchea*, albeit Moore observes (p. 140): "one cannot for a moment, in spite of Mueller's authority, relegate them to *Pluchea* or its immediate allies, seeing that the structure of the capitula is so different" (*i.e.* with numerous filliform female florets at the periphery of heads in *Pluchea*, but never more than 6 florets in *Cratystylis* and sometimes only 1 or

2). Moore describes the heads as homogamous, yet quite often they are unisexual—either entirely female, or hermaphrodite but functionally male.

One might imagine that by this time the generic name would be finally fixed to the satisfaction of all; but, within six years (1911) we find Ewart and Rees erecting another new genus, *Stera*, apparently in complete ignorance that S. le M. Moore had already published *Cratystylis*. The joint authors failed to state how their genus differed from *Pluchea*; but by a strange coincidence they adopted the self-same epithets for the other two species (*microphylla* and *subspinescens*) that Moore had already used. *Stera*, of course, immediately lapsed as a superfluous name, since it was based on the type of *Cratystylis*.

The latest, and perhaps most astonishing, nomenclatural guise assumed by *C. conocephala* concerns a collection made by C. H. Ostenfeld at Kalgoorlie on October 7, 1914. This was described in 1921 (*l.c.*) as a new species, *Pteronia australiensis*, by J. Hutchinson who stated:

"When Dr. Ostenfeld first showed me this remarkable Composite I said at once that it was a *Pteronia*, a South African genus with which I am very well acquainted. . . . Subsequent investigation has confirmed this surmise, and I have no hesitation in describing the plant as a new species of *Pteronia*."

But *Pteronia* belongs to the *Astereae*, and in E. P. Phillips's *Genera of South African Flowering Plants*, ed. 2: 779 (1951) it is described as having a deeply honeycombed receptacle, anthers obtuse or rarely acute at base, and style-arms usually lanceolate at the apex—none of which characteristics apply to *Cratystylis*. C. A. Gardner in his *Enum. Plant. Aust. Occid.*, pp. 130-131 (1931), under the tribe *Astereae*, lists both "species" *Pteronia australiensis* and *Cratystylis conocephala*.

Dr. Nancy T. Burbidge more recently indicates the synonymy of *P. australiensis* with *C. conocephala* in her *Dictionary of Australian Plant Genera*, p. 246 (1963); she had made a tentative suggestion to this effect (August 28, 1953) on the type sheet of the former in Copenhagen Herbarium. The present writer has also examined this material and is in complete agreement that it represents *Cratystylis conocephala*; furthermore, he considers that Spencer Moore was correct in assigning the genus to tribe *Inuleae*.

#### SUMMARY

The new combination *Trichocline spathulata* is effected; and the full synonymy of *Cratystylis conocephala* is listed and discussed.

## REDISCOVERY AND TAXONOMIC STATUS OF THE WESTERN AUSTRALIAN GECKO

### *DIPLODACTYLUS MICHAELSENI*

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Among the collections of the Hamburg Expedition to southwestern Australia was a new gecko from Denham, Shark Bay, which Werner (1910 : 460) named *Diplodactylus michaelseni* after the leader of the expedition. A little later the Mjöberg Expedition to west Kimberley collected a gecko at Broome on which Lönnberg and Andersson (1913 : 5) based a new genus and